

Client: *City of Houston*
7411 Park Place Blvd.
Houston, TX 77087

Attn: *Mr. Dan Hoyt*
Bureau of Air Quality Control

Phone: 832-393-5631; Fax: 713-640-4341
E-mail: *Dan.hoyt@cityofhouston.net*

Report Date: 02/18/10
Sample Matrix: Gas
Date Collected: 02/10/10
Time Collected: 15:09-16:00
Collected By: Cary Secrest
Date Received: 02/15/10
Time Received: 9:30am
CHEMTEX FILE #: P10020430

RESULTS OF ANALYSIS

PROJECT No: Canister 1350

PROJECT NAME: City of Houston DIAL

PROJECT LOCATION: Shell Deer Park

SAMPLE IDENTIFICATION: TOL-913

CHEMTEX #: P10020430

Analyte	Result (ppb, v)	Reporting Limit, (RL) (ppb,V)	Flag
Propylene	19.52	2.5	
Propane	20.70	2.5	
Freon 12	< 2.5	2.5	
Chloromethane	< 2.5	2.5	
Freon 114	< 2.5	2.5	
Isobutane	7.72	2.5	
Vinyl chloride	< 2.5	2.5	
1-Butene	13.26	2.5	
1,3-Butadiene	13.11	2.5	
Butane	11.15	2.5	
t-2-Butene	14.15	2.5	
Bromomethane	< 2.5	2.5	
c-2-Butene	8.14	2.5	
Chloroethane	< 2.5	2.5	
Acetone	< 2.5	2.5	
Isopentane	31.25	2.5	
Freon 11	< 2.5	2.5	
Isopropyl Alcohol	< 2.5	2.5	
1-Pentene	9.76	2.5	
Pentane	19.61	2.5	
Isoprene	13.86	2.5	
t-2-Pentene	7.01	2.5	
c-2-Pentene	< 2.5	2.5	
1,1-Dichloroethene	< 2.5	2.5	
2-Methyl-2-butene	< 2.5	2.5	
Methylene Chloride	< 2.5	2.5	
Carbon disulfide	< 2.5	2.5	
Freon 11	< 2.5	2.5	
2,2-Dimethylbutane	< 2.5	2.5	
Cis-1,2-Dichloroethane	< 2.5	2.5	
1,1-Dichloroethane	< 2.5	2.5	
Cyclopentane	< 2.5	2.5	
2,3-Dimethylbutane	< 2.5	2.5	
MTBE	< 2.5	2.5	
2-Methylpentane	3.17	2.5	
2-Butanone	< 2.5	2.5	
3-Methylpentane	< 2.5	2.5	

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Environmental & Industrial Hygiene Services

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5544 Leopard Street, Corpus Christi, Texas 78408 • (361) 299-9900 FAX (361) 299-1155
138 S. Cities Service Hwy., Sulphur, Louisiana 70663 • (337) 626-2121 FAX (337) 626-2126

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SAMPLE IDENTIFICATION: TOL-913
CHEMTEX #: P10020430

Analyte	Result (ppb, v)	Reporting Limit, (RL) (ppb,V)	Flag
1-Hexene	< 2.5	2.5	
2-methyl-1-pentene	< 2.5	2.5	
trans-1,2-dichloroethene	< 2.5	2.5	
4-methyl-1-pentene	< 2.5	2.5	
Hexane	4.11	2.5	
Ethylacetate	< 2.5	2.5	
Chloroform	< 2.5	2.5	
TetrahydroFuran	< 2.5	2.5	
MethylCyclopentane	< 2.5	2.5	
2,4-Dimethylpentane	< 2.5	2.5	
1,1,1-Trichloroethane	< 2.5	2.5	
Benzene	45.25	2.5	
Carbontetrachloride	< 2.5	2.5	
Cyclohexane	< 2.5	2.5	
2-Methyl Hexane	< 2.5	2.5	
2,3-Dimethylpentene	< 2.5	2.5	
3-Methylhexane	< 2.5	2.5	
1,2-Dichloropropane	< 2.5	2.5	
Bromodichloromethane	< 2.5	2.5	
Trichloroethylene	< 2.5	2.5	
Isooctane	< 2.5	2.5	
Heptane	< 2.5	2.5	
1,3-Dichloro-1propene	< 2.5	2.5	
cis-1,3-Dichloropropene	< 2.5	2.5	
MIBK	< 2.5	2.5	
Methylcyclohexane	< 2.5	2.5	
trans-1,3-dichloropropane	< 2.5	2.5	
1,1,2-trichloroethane	< 2.5	2.5	
2,3,4-Trimethyl pentane	< 2.5	2.5	
Toluene	5.43	2.5	
2-methylheptane	< 2.5	2.5	
2-Hexanone	< 2.5	2.5	
Dibromochloromethane	< 2.5	2.5	
3-Methylheptane	< 2.5	2.5	
1,2-Dibromoethane	< 2.5	2.5	
Octane	< 2.5	2.5	
Tetrachloroethylene	< 2.5	2.5	

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PROJECT LOCATION: Shell Deer Park
SAMPLE IDENTIFICATION: TOL-913
CHEMTEx #: P10020430

Analyte	Result (ppb, v)	Reporting Limit, (RL) (ppb,V)	Flag
Chlorobenzene	< 2.5	2.5	
Ethylbenzene	< 2.5	2.5	
m,p-Xylene	< 2.5	2.5	
Bromoform	< 2.5	2.5	
Styrene	< 2.5	2.5	
1,1,2,2-tetrachloroethane	< 2.5	2.5	
o-xylene	< 2.5	2.5	
Nonane	< 2.5	2.5	
Isopropylbenzene	< 2.5	2.5	
Propylbenzene	< 2.5	2.5	
m-Ethyltoluene	< 2.5	2.5	
p-Ethyltoluene	< 2.5	2.5	
1,3,5-trimethylbenzene	< 2.5	2.5	
o-Ethyltoluene	< 2.5	2.5	
1,2,4-trimethylbenzene	< 2.5	2.5	
Benzylchloride	< 2.5	2.5	
1,3-Dichlorobenzene	< 2.5	2.5	
Decane	< 2.5	2.5	
1,4-Dichlorobenzene	< 2.5	2.5	
1,2,3-Trimethylbenzene	< 2.5	2.5	
1,2-Dichlorobenzene	< 2.5	2.5	
m-Diethylbenzene	< 2.5	2.5	
p-Diethylbenzene	< 2.5	2.5	
Undecane	< 2.5	2.5	
1,2,4-Trichlorobenzene	< 2.5	2.5	
Dodecane	< 2.5	2.5	
Hexachloro,1,3-butadiene	< 2.5	2.5	

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CHEMTEX FILE #: P10020430

QA/QC
LABORATORY CONTROL SAMPLE (LCS) RECOVERIES
QC BATCH ID: 020610

Analyte	True value (ppb,v)	Obtained Value (ppb,v)	% Rec	Flag
Propylene	10.00	8.76	88	
Propane	10.00	8.40	84	
Isobutane	10.00	8.85	89	
1-Butene	10.00	8.97	90	
Butane	10.00	8.90	89	
t-2-Butene	10.00	9.03	90	
c-2-Butene	10.00	8.97	90	
Isopentane	10.00	8.25	83	
1-Pentene	10.00	8.69	87	
Pentane	10.00	9.12	91	
Isoprene	10.00	9.00	90	
t-2-Pentene	10.00	9.06	91	
c-2-Pentene	10.00	9.01	90	
2-Methyl-2-butene	10.00	9.01	90	
2,2-Dimethyl butane	10.00	9.09	91	
Cyclopentane	10.00	9.05	91	
3-Methylpentane	10.00	8.99	90	
1-Hexene	10.00	9.24	92	
2-methyl-1-pentene	10.00	9.24	92	
Hexane	10.00	9.02	90	
MethylCyclopentane	10.00	8.93	89	
2,4-Dimethylpentane	10.00	9.08	91	
Benzene	10.00	8.41	84	
Cyclohexane	10.00	8.49	85	
2-Methyl Hexane	10.00	8.46	85	
2,3-Dimethylpentane	10.00	8.67	87	
3-Methylhexane	10.00	8.50	85	
Isooctane	20.00	17.13	86	
Heptane	10.00	8.05	81	
Methylcyclohexane	10.00	8.17	82	
2,3,4-Trimethyl pentane	10.00	8.36	84	
Toluene	10.00	8.28	83	
2-methylheptane	10.00	8.19	82	
2-Hexanone	10.00	10.81	108	
3-Methylheptane	10.00	8.44	84	

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CHEMTEx FILE #: P10020430

QA/QC
LABORATORY CONTROL SAMPLE (LCS) RECOVERIES
QC BATCH ID:020610

Analyte	True value (ppb,v)	Obtained Value (ppb,v)	% Rec	Flag
Octane	10.00	7.40	74	
Ethylbenzene	10.00	8.53	85	
m,p-Xylene	20.00	16.93	85	
Styrene	10.00	8.81	88	
o-xylene	10.00	8.68	87	
Nonane	10.00	8.03	80	
Isopropylbenzene	10.00	8.44	84	
Propylbenzene	10.00	7.97	80	
m-Ethyltoluene	10.00	7.78	78	
p-Ethyltoluene	20.00	15.92	80	
1,3,5-trimethylbenzene	10.00	8.80	88	
o-Ethyltoluene	10.00	7.96	80	
1,2,4-trimethylbenzene	10.00	8.70	87	
Decane	10.00	7.73	77	
1,2,3-Trimethylbenzene	10.00	7.46	75	
m-Diethylbenzene	10.00	7.25	73	
p-Diethylbenzene	10.00	7.10	71	
Undecane	10.00	6.64	66	L

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CHEMTEX FILE #: P10020430

FLAGS

RL: Reporting Limit

J: Target analyte is between the MDL and RL values.

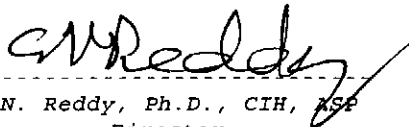
L: Target analyte recovered below the recovery limit.

H: Target analyte recovered above the recovery limit.

METHOD REFERENCES/ANALYSIS DATES & ANALYSTS

Analytes
VOAsMethod
EPA Method TO-15Date Analyzed/Analyst
02/16/10 KBR

kml*/CNR



Dr. C. N. Reddy, Ph.D., CIH, ASP
Director

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CHEMTEX

Environmental & Industrial Hygiene Services
3082 25th Street, Port Arthur, TX 77642
Phone: (409) 983-4575, Fax: (409) 982-1522
E-mail: chemtexpa@sbcglobal.net

CHAIN OF CUSTODY RECORD INDUSTRIAL HYGIENE ANALYTICAL SERVICES REQUEST

Client: City of Houston Attn: Mr. Dan Hoyt, Bureau of Air Quality Control		Address: 7411 Park Place Blvd. Houston, TX 77087			Phone: 832-393-5631 Fax: 713-640-4341 E-mail: Dan.Hoyt@cityofhouston.net		
(if different from above) BILLING CONTACT/ADDRESS:		P. O. #:	Project No.: CANISTER 1350	Project Name: CITY OF HOUSTON DIAL		Project Location: SHELL DEER PARK	
CHEMTEX #	Sample Identification		Sample Media	Date Collected	Sampling Time (min)	Sampling Volume (lit)	Requested Parameters CHEMTEX #
1350	TOL-913		CANISTER	2-10-10	15:09 - 16:00 (51 Min)	6L	P10020430
Sample(s) Collected By: CARLY SECREST		Expected Turnaround Time Emergency Rush 2-4 hr Rush 24 hr Rush 48 hr Rush 7-14 days					<input type="checkbox"/> Regulatory <input type="checkbox"/> Non-Regulatory
Relinquished By:		Date/Time:		Received By:		Date/Time:	
Relinquished By: FRANCIS AGOSTINI		Date/Time: 2-11-2010 11:00		Received for CHEMTEX By: 		Date/Time: 02/15/10 9:30 AM	

Facilities are also available: 5544 Leopard Street, Corpus Christi, Texas 78408; (361) 299-9900 e-mail: chemtexcc@sbcglobal.net and 138 S. Cities Service Hwy., Sulphur, Louisiana 70663; (337) 626-2121 e-mail: chemtexlc@sbcglobal.net

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City of Houston
Bureau of Air Quality Control
Canister Sampling Data Sheet and Chain-of-Custody



Sample ID: 1350 - Flow Restricted | **Canister #:** 1350

Canister Cleaning Information (Laboratory Personnel Only)		
Canister Cleaning Operation	Pressure	Initials / Date
Canister Cleaned and Evacuated	in Hg	
Media Blank Evacuation	in Hg	

Sampling and Analysis Request Information (BAQC Investigator Only)		
Canister Received: (Initials / Date) <i>CS 2-10-10</i>		Canister Pressure (Upon Receipt): <i>-28.5</i> in Hg
Pre-Sampling Pressure: <i>-28.5</i> in Hg		Pre-Sampling Leak Test (Circle) <i>(Pass)</i> / Fail
(* If the difference is greater than ± 2 in Hg, do not use the canister for sampling)		
Start Time: <i>15:09</i>	End Time: <i>16:00</i>	Elapsed Time: <i>51 min</i>
Post-Sampling Pressure: <i>-9</i> in Hg		
Potential Source (s) (Company's Name): <i>Shell Deer Park</i>	Potential Source (s) (Company's) Address (es): <i>TOL-913 pygas tank</i>	
Sample Collection Address:	Alleged Chemical (s) (If Known) <i>aromatics, including benzene</i>	
GPS Coordinates:	Weather Conditions: <i>sky condition - overcast. Light rain.</i>	
Sample Collected By: <i>Cary Secret</i>	Sample Date: <i>2-10-2010</i>	
Phone Number: <i>202.360.9527</i>	E-mail: <i>secret.cary@epa.gov</i>	
Site Description and Field Comments: <i>59 m NNE of center of TOL-913, and 59 m NNW of TOL-913</i>		

Analysis Method Requested (Circle) *(VOC's by TO-15)* / Other Describe:

Canister Leak Test Information (BAQC Mobile Lab Personnel Only)					
Canister Leak Test	Field Pressure (in Hg)	Lab Pressure (in Hg)	Difference in Pressure	Test Results (Circle)	Initials / Date
Final				Pass / Fail / NA	

Canister Preparation Information (BAQC Mobile Lab Personnel Only)			
Canister Preparation	Dilution 1	Dilution 2	Initials / Date:
Pre-Dilution Pressure	in Hg	in Hg	
Post-Dilution Pressure	psi	psi	
Dilution Factors	#1	#2	
Laboratory Comments:			

Chain of Custody	
Relinquished by: (Signature/Date)	Received by: (Signature/Date)
<i>Cary Secret 2-10-2010</i>	<i>X. Qin 2/10/10 14:16:25</i>
<i>Pete Chen 2-11-2010 10:00</i>	<i>FRANCIS AGOSTINI 2-11-2010 10:00</i>
<i>FRANCIS AGOSTINI 2-11-2010 11:00</i>	

TESTAMERICA - AUSTIN
14050 SUMMIT DR. SUITE A-100
AUSTIN, TX 78728

Canister #

1350

Field ID

1350 - Flow Restricted Sample

Site

59m NNE (20°) of center of TOL-913

Project

Shell Deer Park DIAL Project

Sampler Initials

CD

Date

02 / 10 / 2010

Time

15:09 to 16:00

Comments

Start time 15:09

Initial PID readings 200-400 ppb as indicated

Downwind of TOL-913 pygas tank

Sample Matrix: ☒ Ambient

☒ Source ^{Near-source} ambient

☐ Routine

☐ Duplicate

☐ Blank

☐ Other

☐ Void

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

0.67 ppbVC

1350 (2/10/2010)

Initial Pressure Final Pressure Date Initials Dilution Factor Canister Blanketed Lab Pressure

28.5

-9

2-10-10

CS

052109

FIELD

LAB